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5 Abstract *of the Disclosure*

The invention relates to a silicon germanium hetero bipolar transistor suitable for high frequency applications and a method of fabricating the epitaxial individual layers of a silicon germanium hetero bipolar transistor  
10 suitable for high frequency applications.

Silicon germanium hetero bipolar transistors thus fabricated have an increased transit frequency, an increase maximum oscillation frequency and/or a reduced noise level depending upon requirements and intended  
15 application.

A monocrystalline deposition is performed on a surface of pure silicon in accordance with the desired transistor profile. The silicon germanium hetero bipolar transistor contains an additional electrically inert material. The  
20 semiconductor arrangement of silicon germanium hetero bipolar transistors is fabricated by an epitaxy process. A electrically inert material incorporated into the epitaxial layer links fabrication defects and reduces the diffusion of the dopant. Thus, transistors for high frequency applications may be fabricated in two ways: The dopant dose of the base region is increased  
25 and/or the width of the base is reduced.